

Organic Chemistry Misconception

Numbering	
A	<ul style="list-style-type: none"> ...if it is not stated, assume that it is on the first carbon. NO. When the number (usually 1) is not stated, it is because the item must be on number 1, or there is no other place the item could be.
B	<ul style="list-style-type: none"> ...the position of an ether group does not need to be numbered. NO. An alkoxy group can attach anywhere on a chain <i>i.e. 1-ethoxy and 2-ethoxy indicate different points of attachment.</i>
C	<ul style="list-style-type: none"> ...you can number through (across) an alkoxy (or carboxy) group. <i>i.e. C-C-O-C-C-C is a 5 carbon chain.</i> NO. The oxygen atom indicates the attachment of a functional group. <i>i.e. there is an ethoxy attached to the first carbon on a propane, 1-ethoxy propane.</i>
D	<ul style="list-style-type: none"> ...you always number from the end with the closest branch (or to get the lowest numbers). NO. Set your numbering so that the main functional group (last ending stated) has its lowest possible number. <i>5-chloro-2-pentene vs 1-chloro-3-pentene.</i>
Properties	
A	<ul style="list-style-type: none"> ...benzene consists of alternating double and single bonds. NO. The current theory involves delocalised electrons that move from bonding area to bonding area, resulting in an equal electron distribution between each carbon pair
B	<ul style="list-style-type: none"> ...a chemical test that can be done is a boiling point (or pH or melting point) comparison. NO. Chemical tests involve chemical changes; reacting with another substance. B.P, pH and M.P are all physical characteristics (nothing new is created).
C	<ul style="list-style-type: none"> ...intermolecular forces are related to bonds being broken. Cyclohexene's double bond is more reactive than the bonds in benzene, therefore benzene has stronger intermolecular forces. NO. Intermolecular forces are related to physical changes; no bonds are broken, no reactions are occurring. The strength of the forces depends on shape, size and electronegativity.
D.	<ul style="list-style-type: none"> ...long chain alkanes have high melting points because there are more C-H hydrogen bonds. NO. A C-H bond is a covalent bond. A 'hydrogen' bond is a very strong intermolecular force that occurs in polar molecules between the H on one molecule and the N, O or F on another molecule. The trend is due to London Forces.
Reactions	
A	<ul style="list-style-type: none"> ...an alkene needs heat to react with a halogen. NO. The double bond is more reactive (not weaker) than a single bond and will react immediately with a halogen or hydrogen halide.
B	<ul style="list-style-type: none"> ...the 'synthesis' of 2-hydroxy propane involves reacting 2-hydroxy propane with another substance. NO. 'Synthesis' refers to the creation of the product not using up the reactant.